

REMARKS

Claims 21-27 are pending in this application. In the Office Action, the Examiner rejected Claims 21-26 under 35 U.S.C. 102 as being fully anticipated by U.S. Patent 6,178,529 (Short, et al.), and rejected Claim 27 as being unpatentable over Short, et al. in view of U.S. Patent 5,761,506 (Angle, et al.). Claims 21-27 were also rejected under 35 U.S.C. 112 as being indefinite.

Applicants are herewith filing a Request for Continued Examination (RCE) to continue the prosecution of this application.

The present Amendment is being submitted to amend Claims 21, 25, 26 and 27. Independent Claims 21, 25 and 26 are being amended to better define the subject matters of these claims, and Claim 27 is being amended to improve the form and readability of the claim.

For the reasons discussed below, Claims 21-27 are clear and definite and fully comply with the requirements of 35 U.S.C. 112; and moreover, these claims also patentably distinguish over the prior art and are allowable. The Examiner is, thus, respectfully asked to reconsider and to withdraw the rejection of Claims 21-25 under 35 U.S.C. 102, the rejection of Claim 27 under 35 U.S.C. 103, and the rejections of claims 21-27 under 35 U.S.C. 112, and to allow Claims 21-27.

Applicants will first address the rejections of the claims under 35 U.S.C. 112, and then discuss the rejections of the claims under 35 U.S.C. 102 and 103.

In rejecting Claims 21-27 under 35 U.S.C. 112, the Examiner objected to the use of the word "systematic" in Claims 21, 25 and 26, and objected to a number of words and phrases in Claim 27.

The objection to the word “systematic” is respectfully traversed. This word is an ordinary word and is being used in an ordinary way to mean based on or involving a system. The present invention, as explained in the present application, addresses the issue of managing network resources. This invention manages these resources in an organized, systematic way, and it is believed appropriate and helpful to use the word “systematic” in the claims to describe the invention.

In particular, as described in Claims 21, 25 and 26, the resources are brought on-line in a systematic manner, and the first and second groups of resources are combined in a systematic manner. In both of these cases, the word “systematic” is used in an ordinary, well-understood way – to mean based on or involving a system – and those of ordinary skill in the art have a clear understanding of the meaning of the word and how it is used in the claims. Accordingly, the use of this word is not unclear or indefinite.

Claim 27 is being amended to address the Examiner’s objections. For instance, the claim is being amended to refer more expressly to the preprocessor tasks and the postprocessor tasks. In addition, the claim is being amended to use “postprocessor” consistently as one word. The expression “the individual tasks” is being taken out of Claim 27, and instead, the ways in which these tasks are scheduled are being described more expressly.

It is noted that Claim 27 refers to an entry method associated with a task, and in the Office Action, the Examiner asked how it is associated. This association is by virtue of the fact that the entry method is used to schedule the task, and any suitable procedure or arrangement may be used to ensure that, when needed, the appropriate, associated entry method is used to

schedule the task. Those of ordinary skill in the art will be readily able to identify appropriate methods to schedule the tasks, and to associate those methods with the tasks in a suitable way.

Applicants' Attorneys have carefully reviewed Claims 21-27, and these claims, as presented herewith, are clear and definite and fully comply with the requirements of 35 U.S.C. 112. Consequently, the Examiner is asked to reconsider and to withdraw the rejections of Claims 21-27 under 35 U.S.C. 112.

In addition to the foregoing, Claims 21-27 also patentably distinguish over the prior art and are allowable because the prior art does not disclose or render obvious the way in which the dependencies, preferences, constraints, events and policies are separated into two groups, and then combined, as described in the independent Claims 21, 35 and 26, in order to achieve a desired level of automation in the coordination and mapping of resources and services.

As discussed in detail in the present application, this invention provides a method and system for managing a cluster of networked resources using rule-based constraints in a scalable clustering environment. With this invention, resources are considered as services whose availability and quality of service depend on the availability and the quality of service provided by one or more other services in the cluster. In accordance with the present invention, the network resources are separated in two dimensions or groups.

The first group captures the static and occasionally changing resources, such as the type and quality of the supporting services needed to enable its services. The second group is the dynamic state of the various services provided by the cluster. These dynamic changes are captured by events. The present invention, by separating the dynamic part (the events) from other parts (the rules), and combining these in a systematic manner only when needed, achieves a

desired level of automation in the coordination and mapping of resources and services.

The Examiner, in the Office Action, argued that static or occasionally changing resources are contradictory in definition. In response, Applicants note that the first of the above-mentioned groups captures two types of items – static items, and occasionally changing items. It is not the case that any one item is both static and occasionally changing. Thus, there is no contraction in describing the first group as capturing both static items and occasionally changing items.

Independent Claims 21, 24 and 25 are being amended to describe in more detail the way the items are separated into the two above-described groups and the result of separating the items into these groups.

More specifically, as amended herewith, independent Claims 21, 25 and 26 describe the limitation that the first group captures the static and occasionally changing resources, including the type and quality of the supporting services needed to enable its service. The independent claims 21, 25 and 26 also include the limitation that by separating the dynamic part from other parts and combining these first and second groups in a systematic manner only when needed a desired level of automation is achieved in the coordination and mapping of resources and services.

The way in which the above-discussed factors are separated into groups, and the subsequent combining and use of these groups, are not shown in or suggested by the prior art.

In particular, Short, et al. describes a method and system to facilitate the control and monitoring of disparate resources. With the procedure disclosed in Short, et al, a resource component is connected to a resource object for management of that object, and a resource monitor connects the resource components to a cluster service. The resource component

includes a plurality of methods, and these methods are called by the resource monitor to control and monitor operation of the resource object through the resource component.

In the Office Action, the Examiner cited column 5, line 46 – column 6, line 9 of Short, et al. as disclosing separating the network resources, resource groups, cluster configurations into static and dynamically changing groups. This portion of Short, et al. discusses the operation of the resource manager 86 and how that manager makes management decisions and initiates appropriate actions, such as startup, restart and failover. Various factors may be taken into account when making these decisions, but there is no disclosure or teaching of separating the resources and resource groups, or the factors that determine the availability and quality of services of the resources, into the two above-identified groups that are used in the practice of the present invention. Instead, with the procedure of Short, et al, the resource manager receives resource and system state information from a resource monitor and a node manager, and uses that information to make decisions.

The other references of record have been reviewed, and these other references, whether considered individually or in combination, also do not disclose or suggest these features of the present invention.

For example, Angle, et al. describes a procedure for handling cache misses in a computer system. In this procedure, a computer system architecture schedules processes for execution on one of multiple processors, migrates processes between the processors. Also, processes are rescheduled upon the occurrence of a cache miss.

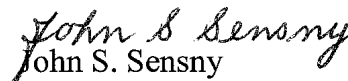
Angle, et al. was cited primarily for its disclosure of preprocessor and postprocessor modules, and there is no teaching in this reference of separating dependencies, preferences,

constraints, events, and policies into two groups and then combining these two groups as is done in the present invention.

In light of the above-discussed differences between Claims 21, 25 and 26 and the prior art, and because of the advantages associated with these differences, these claims are not anticipated by, and are not obvious in view of, the prior art. Accordingly, Claims 21, 25 and 26 patentably distinguish over the prior art and are allowable. Claims 22–24 and 27 are dependent from, and are allowable with, Claim 21.

For the reasons explained above, the Examiner is respectfully requested to reconsider and to withdraw the rejection of Claims 21-26 under 35 U.S.C. 102, and the rejection of Claim 27 under 35 U.S.C. 103. The Examiner is also asked to reconsider and to withdraw the rejection of Claim 21-27 under 35 U.S.C. 112, and to allow Claims 21-27. If the Examiner believes that a telephone conference with Applicants' Attorneys would be advantageous to the disposition of this case, the Examiner is asked to telephone the undersigned.

Respectfully Submitted,


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